

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 18 APR 2005

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To:  
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## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) **15 APR 2005**

Applicant's or agent's file reference

**FOR FURTHER ACTION**

See paragraph 2 below

5869-040

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US04/37406

10 November 2004 (10.11.2004)

11 November 2003 (11.11.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): H04M 1/00 and US CL: 455/79

Applicant

MATECH, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

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Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>7-9, 15</u>	YES
	Claims <u>1-6, 10-14, 16</u>	NO
Inventive step (IS)	Claims <u>None</u>	YES
	Claims <u>1-16</u>	NO
Industrial applicability (IA)	Claims <u>1-16</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Please See Continuation Sheet

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**Box No. VII Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: item 9 is referred to as both PTTSW and PPTSW, which is assumed to be typographical error, as both seem to refer to the same push to talk switch. Correction is required.

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

**V. 2. Citations and Explanations:**

Claims 1-6, 10-14 and 16 lack novelty under PCT Article 33(2) as being anticipated by Day.

Regarding claim 1, Day discloses a communication device comprising: a wireless part including a wireless transmitter and wireless receiver; a transmitter/receiver part including a receiver circuit for processing a reception signal received by the wireless receiver and a transmitter circuit for processing a transmission signal transmitted by the wireless transmitter; and a control part selectively connecting the wireless transmitter to the transmitter circuit and selectively connecting the wireless receiver to the receiver circuit according to a switched stand-by mode and communication mode, the control part further including a tone generator configured to output an activation tone on the transmission signal when switched to the communication mode, the activation tone automatically causing a handset receiving the transmission signal to switch from a reception mode to a reception and transmission mode.

Regarding claim 2, Day discloses the communication device according to claim 1, wherein the control part output a first activation tone on the transmission signal for a predetermined time and at a first frequency after switching to the communication mode causing the handset to switch to the reception and transmission mode, the control part outputting a second tone on the transmission signal for a predetermined time at a second frequency after switching back to the stand by mode causing deactivation of the handset transmission mode.

Regarding claim 3, Day discloses the communication device according to claim 1 wherein the control part includes a push to talk switch that upon being pressed automatically activates the tone generator and automatically activates a power source in the wireless transmitter.

Regarding claim 4, Day discloses a communication device, comprising: transmitter circuitry for transmitting a wireless transmission signal; receiver circuitry for receiving a wireless reception signal; and control circuitry selectively switching the transmitter and receiver circuitry between a standby mode where only the wireless receiver circuitry is operational and a communication mode where both the receiver circuitry and the transmitter circuitry are operational, the control circuitry including a tone detector that automatically causes the control circuitry to switch from the standby mode to the communication mode when a activation tone is detected in the reception signal.

Regarding claim 5, Day discloses the communication device of claim 4 wherein the tone detector automatically switches to the communication mode when a first activation frequency tone is detected in the reception signal and automatically switches to the standby mode when a second deactivation frequency tone is detected in the reception signal.

Regarding claim 6, Day discloses the communication device according to claim 4 including a voice detector automatically causing the control circuitry to switch from the standby mode to the communication mode when a voice signal is received by the transmitter circuitry and automatically causing the control circuitry to switch back to the stand-by mode when no voice signal has been received

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

for a predetermined amount of time.

Regarding claim 10, Day discloses the communication device according to claim 4 including an antenna switching circuit automatically connection an antenna to the receiver circuitry during the standby mode and automatically connecting the antenna to the transmitter circuitry during the communication mode.

Regarding claim 11, Day discloses a half-duplex wireless communication device, comprising: a wireless section including a wireless receiver for receiving a wireless reception signal and a wireless transmitter for transmitting a wireless transmission signal; a transmitter receiver section that includes a receiver section for outputting the reception signal as an audio output signal and a transmitter section for converting an audio input signal in to the transmission signal supplied to the wireless transmitter; and a control section switching between a standby mode where the wireless receiver is coupled to the receiver section and the wireless transmitter is powered off an disconnected form the transmitter section and a communication mode where the receiver is coupled to the receiver section and the wireless transmitter is powered on and coupled to the transmitter section, the control section automatically switching from the standby mode to the communication mode when a voice signal is detected in the transmission signal.

Regarding claim 12, Day discloses the communication device according to claim 11 wherein the control section automatically switches back to the standby mode when no voice signal is detected in the transmission signal for a predetermined period of time.

Regarding claim 13, Day discloses the communication device according to claim 11 wherein the control section automatically switches from the standby mode to the communication mode when a first predetermined frequency tone is detected in the reception signal.

Regarding claim 14, Day discloses the communication device according to claim 13 wherein the control section automatically switches from the communication mode back to the standby mode when a second predetermined frequency tone is detected in the reception signal.

Regarding claim 16, Day discloses the communication device according to claim 11 wherein the control section includes a first switch coupled between the wireless receiver and the receiver section, a second switch coupled between the wireless transmitter and the transmitter section, and a transmission/reception switch controller that shuts the first switch and opens the second switch during the standby mode and shuts both the first and second switch during the communication mode.

Claims 7-8 and 15 lack an inventive step under PCT Article 33(3) as being obvious over Day in view of Akiyama.

Regarding claim 7, Day discloses the communication device according to claim 4 but does not disclose using a single dual operation transducer. Akiyama discloses a radio device including a transducer coupled between the transmitter circuitry and the receiver circuitry configured to operate as both a microphone and a speaker. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a dual-purpose transducer in order to save cost as well as reduce size and weight.

Regarding claim 8, the combination of Day and Akiyama discloses the communication device according to claim 7 including a first noise filter coupled between the transducer and the transmitter circuitry and a second noise filter coupled between the transducer and the receiver circuitry.

Regarding claim 15, Day discloses the communication device according to claim 11, but does not expressly disclose a single transducer, Akiyama discloses a radio device wherein the transmitter section and the receiver section comprise a single transducer configured a first amplifier coupled between the wireless receiver and a first the transducer and a second amplifier coupled between the wireless transmitter and the transducer. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to make a single dual-purpose transducer in order to save cost as well as reduce size and weight, and it would have been an obvious design choice to make the transducer insertable in the ear to make the device hands free.

Claim 9 lacks an inventive step under PCT Article 33(3) as being obvious over Day in view of Bogut.

Regarding claim 9, Day discloses the communication device according to claim 4, but does not expressly discloses a photo switch. Bogut discloses a PTT radio device including a photo-switch coupled between the control circuitry and a power source activation signal in the transmitter circuitry. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to reduce susceptibility to interference.

Claims 1-16 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.